AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A method for allocating bandwidth of a data network to a plurality

of data streams, comprising:

specifying apportionment of the bandwidth to a plurality of data classes;

receiving a plurality of data streams;

wherein each data stream of the plurality of data streams has at least one attribute that

corresponds to associates the data stream with one of the data classes of the

plurality of data classes;

determining a particular data class that corresponds to a particular data stream;

wherein one or more other data streams that are associated with the particular data class

are currently being transmitted;

determining from a plurality of acceptable transfer rates for the particular data

stream;[[,]]

negotiating a transfer rate for each the particular data stream from the plurality of

acceptable transfer rates;[[,]]

wherein negotiating a transfer rate for the particular data stream includes selecting a

transfer rate that (a) does not exceed wherein the transfer rate is limited to the

bandwidth apportioned to the particular data class that is not being used by the

one or more other data streams, and (b) does not cause the transfer rates of the

one or more other data streams to go below minimum acceptable transfer rates of

the one or more other data streams associated with each data stream; and

transmitting the particular data stream[[s]] on the data network at the negotiated transfer

rate[[s]].

~~a stream processor, having logic to receive the data stream and to;~~

~~an output coupled to the stream processor, having logic to receive the data stream and~~

　　　~~transmit the data stream on the data network at the negotiated transfer rate.~~

2.　　　(Currently Amended) The method of claim 1 wherein the step of receiving comprises steps of:

　　　receiving stream annotations associated with each of the data streams; ~~and~~

　　　using a stream annotation associated with the particular data stream to select a plug-in

　　　　　of a plurality of plug-ins; and

　　　activating the ~~a~~ plug-in to receive each data stream~~, wherein the type of plug-in is~~

　　　~~determined from the stream annotation~~s.

3.　　　(Cancelled)

4.　　　(Currently Amended) The method of claim 1 wherein the step of transmitting comprises steps of:

　　　transforming ~~each~~ the particular data stream to the negotiated transfer rate; and

　　　transmitting the data stream[[s]] on the data network at the negotiated transfer rate[[s]].

5.　　　(Currently Amended) The method of claim 4 wherein the step of transforming comprises a step of thinning, transcoding or decimating the particular data stream to the negotiated transfer rate.

6.　　　(Currently Amended) The method of claim 1 wherein the transfer rate is a first transfer rate, ~~and~~ the method further compris[[es]]ing steps of:

determining ~~an amount of~~ unallocated bandwidth on the data network;

negotiating a second transfer rate for ~~at least one~~ a first data stream, wherein the second

transfer rate uses the unallocated bandwidth;

transforming the ~~at least one~~ first data stream to the negotiated second transfer rate; and

transmitting the ~~at least one~~ first data stream on the data network at the second transfer

rate.

7.   (Currently Amended) The method of claim 6 further compris[[es]]ing steps of:

receiving ~~at least~~ a second data stream ~~having an associated data class~~;

determining a second data class that corresponds to the second data stream;

negotiating a third transfer rate for the ~~at least one~~ first data stream, wherein the third

transfer rate is limited to the bandwidth apportioned to the particular data class

~~associated with the first data stream~~;

negotiating a fourth transfer rate for the ~~at least~~ second data stream, wherein the fourth

transfer rate is limited to the bandwidth apportioned to the second data class

~~associated with the second data stream~~; and

transmitting on the data network, the ~~at least one~~ first data stream at the third transfer rate

and the ~~at least a~~ second data stream at the fourth ~~data~~ transfer rate.

8-20 (cancelled)

21.   (Currently Amended) In a data network configured to transmit data streams at negotiated

transfer rates, wherein each of a plurality of data streams has at least one attribute that

associates the data stream with a particular data class, and wherein a negotiated transfer rate is

limited to bandwidth apportioned to the data class of a data stream, the improvement

comprising:

allocating bandwidth to the data streams by negotiating a transfer rate for each of the

plurality of data streams from a plurality of acceptable transfer rates, the plurality

of acceptable transfer rates provided by plug-ins prior to transmitting each data

stream at the negotiated transfer rate.

22.   (Currently Amended) A system for allocating bandwidth of a data network to a plurality

of data streams, the system comprising:

means for specifying apportionment of the bandwidth to a plurality of data classes;

means for receiving a plurality of data streams;

means for determining a particular data class that corresponds to a particular data stream;

means for determining ~~determine~~ a plurality of acceptable transfer ~~transmission~~ rates for

the particular ~~a~~ data stream;

means for negotiating a transfer rate for the particular data stream, wherein the transfer

rate is a selected one of the plurality of acceptable ~~transmission~~ transfer rates;

wherein negotiating a transfer rate for the particular data stream includes a means for

selecting a transfer rate that (a) does not exceed wherein the transfer rate is limited

to the bandwidth apportioned to the particular data class that is not being used by

the one or more other data streams, and (b) does not cause the transfer rates of the

one or more other data streams to go below minimum acceptable transfer rates of

the one or more other data streams associated with each data stream;

wherein the transfer rate ~~and~~ is limited to a portion of the bandwidth apportioned to ~~a~~ the

data class ~~associated the data stream~~; and

means for transmitting the particular data stream on the data network at the negotiated

transfer rate.

23.　　　(New) A method for allocating bandwidth of a data network to a plurality of data streams, comprising:

apportioning the bandwidth to a plurality of data classes;

receiving a plurality of data streams wherein each data stream has at least one attribute that associates the data stream with one of the data classes;

from a plurality of acceptable transfer rates, negotiating a transfer rate for each data stream, wherein the transfer rate is limited to the bandwidth apportioned to the data class associated with each data stream; and

transmitting the data streams on the data network at the negotiated transfer rates;

receiving a particular data stream associated with a particular data class for which a particular amount of bandwidth has been apportioned;

determining that the particular amount of bandwidth is not sufficient for forwarding said particular data stream on said data network;

in response to determining that the particular amount of bandwidth is not sufficient, determining whether the bandwidth associated with at least one other data class is currently unused; and

in response to determining that bandwidth associated with the at least one other data class is currently unused, performing the steps of:

dynamically reallocating bandwidth from the at least one other data class to the particular data class; and

forwarding the particular data stream on said data network.

24.   (New) A method for allocating bandwidth of a data network to a plurality of data streams, comprising:

specifying apportionment of the bandwidth to a plurality of data classes;

receiving a plurality of data streams for a plurality of plug-ins;

wherein each plug-in of the plurality of plug-ins is associated with a data class of the plurality of data classes;

wherein each data stream has at least one attribute that associates the data stream with one of the data classes;

from a plurality of acceptable transfer rates for each associated plug-in, negotiating a transfer rate for each data stream;

wherein the transfer rate of the data stream for each plug-in is limited to the bandwidth apportioned to the data class associated with the particular plug-in; and

transmitting the data streams on the data network at the negotiated transfer rates.